

OBESITY

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What is obesity?

Obesity is defined as an excessive accumulation of body fat. Traditionally this has been quantified as a body weight of 30% more than the ideal weight on a standard height-weight table. More recently the term body mass index (BMI) is used. Taking the individuals weight in Kg's and dividing it by the height in metres calculates the BMI.

Obesity is on the increase. Prevalence varies significantly by sex, age, socio-economic status and race. The determinants of obesity can be divided into the **genetic**, the **environmental** and **regulatory**.

Genetic

- Certain genes have been isolated in studies and have been shown to produce obesity in mice
- Studies using twin, adoption and families have shown a heritability of about 33%

Environmental

- Socio-economic status
- Large food intake
- Sedentary lifestyle

Regulatory

- Pregnancy
- Increase in fat cell numbers in childhood
- Brain damage
- Drugs
- Endocrine factors
- Psychological factors

Obesity statistics (World Health Organisation)

There are more than 1 billion overweight adults in the world today. 300 million are thought to be obese. (WHO)

Estimates suggest there are 22 million overweight children under the age of 5. (WHO)

Obesity is the leading cause of cancer in non smokers and is a major risk factor for chronic disease including type 2 diabetes and cardiovascular disease.

More statistics (NICE: National Institute for Health & Clinical Exercise)

UK

- In 2008, 24% of men and 25% of women were obese
- In 2008, 42% of men and 32% of women were overweight (25 – 30 BMI)
- That's - 66% men and 57% women overweight or obese
- Between 1993 & 2008, obesity in men increased from 13% to 24%, and from 16% to 25% in women

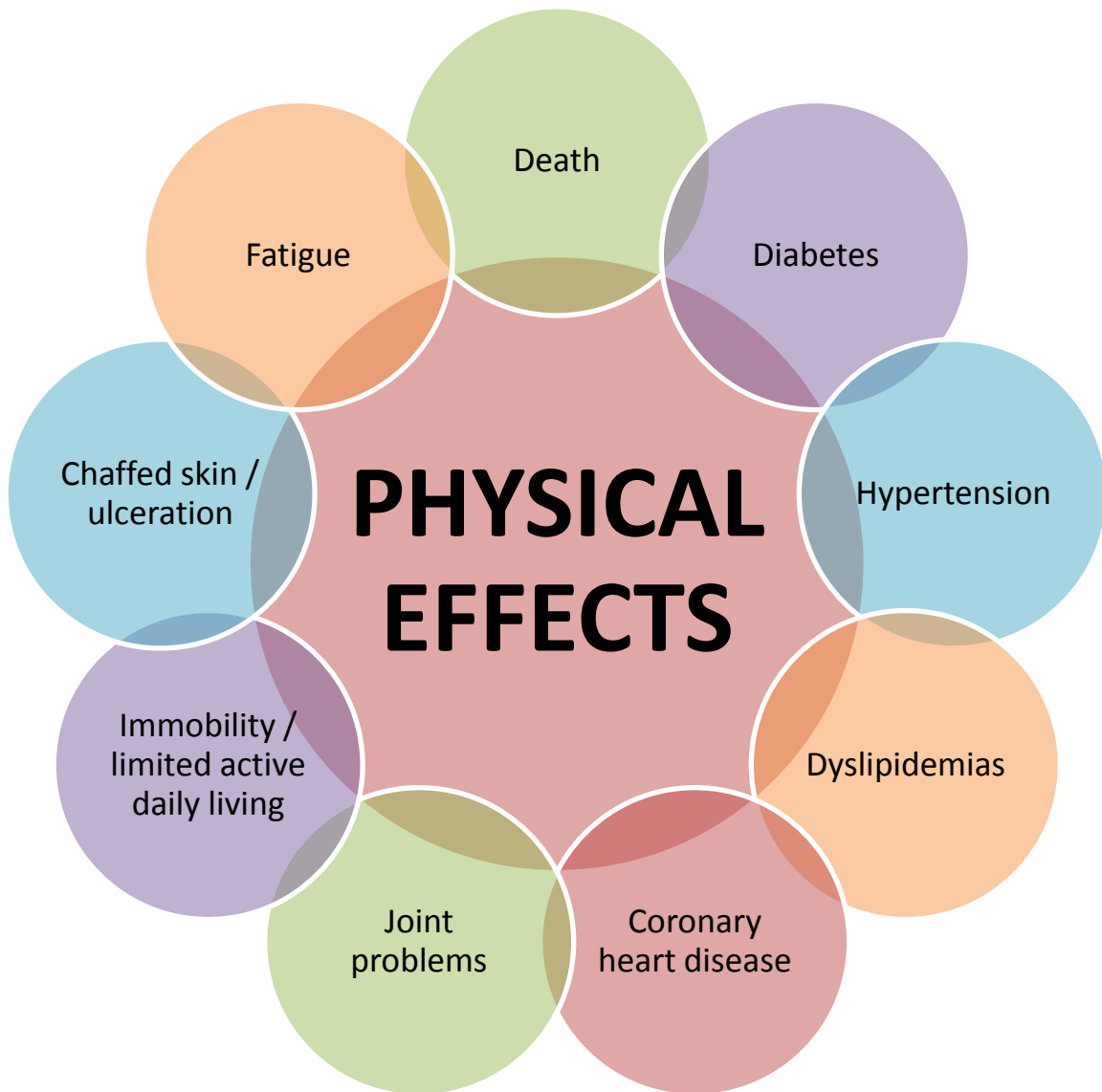
RISK FACTORS

NICE: National Institute of Health & Clinical Exercise

BMI	WAIST CIRCUMFERENCE			
		LOW	HIGH	V.HIGH
	MALE	< 94cm	94 – 102cm	> 102cm
	FEMALE	< 80 cm	80 – 88cm	> 88cm
< 25	No increased risk	No increased risk	Increased risk	
25 – 30	No increased risk	Increased risk	High risk	
30 – 35	Increased risk	High risk	V. High risk	

If BMI = <35, NICE suggests waist circumference AND BMI should be used to indicate relative risk.

Physical effects of obesity



Psychological effects of obesity

- Depression
- Anxiety
- Resentment
- Lethargy

Motivation for exercise

- Reduce weight
- Improve health

Training Tips for Obesity

Exercise Guidelines

Diet alone results in loss of lean muscle tissue and therefore a reduction in the BMR.

Consider:

- **Intensity** – low initially
- **Frequency** – daily
- **Duration** – 30-60 minutes
- **Modality** – cycling or walking initially
- Monitor exercise carefully
- Structured exercise works best
- Must be enjoyable and rewarding
- Avoid exercises that compress the chest cavity e.g. touching toes
- Keep cool & drink plenty of water
- Footwear
- Train with other people with similar weight challenges, goals & aspirations
- Relative small weight loss is still vitally important. As little as 10% of the body mass can reduce the risk of developing diabetes or hypertension

Cautions

- Avoid exercises that compress the chest cavity. Activities that involve bending at the waist or hanging down should be avoided (crunches for example)
- Exercise in the cool of the day or in an air conditioned room in the summer to avoid over-heating. Keep well hydrated
- Footwear should be supportive and shock absorbing
- Aerobic classes should be low impact
- Avoid jogging initially

Behaviour Change

- Self monitoring
- Control of the stimuli that precede eating
- Learn to use positive statements instead of negative ones
- Increase general activity levels
- Nutrition, not just exercise
- Try different ideas and techniques to combat excessive eating
- Positive encouragement – you, family, friends

Nutrition

- Learn to read and understand food labels
- Make small changes over a period of time
- Make low fat choices
- Reduce calorie intake
- Eat a balanced diet
- Eat more fibre and complex carbohydrates
- Eat adequate protein

Summary

- Motivation
- Exercise
- Nutrition
- Behaviour change

See Obesity – A Guide

OBESITY

A GUIDE

Statistics

WHO (the world health authority) states there are more than 1 billion overweight adults in the world and that at least 300 million of these are obese. Estimates suggest there are 22 million overweight children under the age of 5 years old.

Obesity is a major risk factor for chronic disease, especially type 2 diabetes, cardiovascular disease, hypertension, stroke and some cancers.

Definition

Obesity is defined as an excessive accumulation of body fat. Obesity is medically determined using BMI (body mass index). A BMI of over 25 is considered over weight, and of over 30 is clinically obese. Morbid obesity is a medical term used to describe an individual whose body weight threatens their life; a general guide is that of a BMI over 40.

BMI is calculated by taking the individuals' weight in Kg's and dividing it by the square of their height in metres.

BMI does not calculate body composition (amount of fat or lean tissue) however have been used to estimate obesity via fat distribution. Ideal measurements are between 18.5 and 25. We are in the middle of a global obesity epidemic as social norms are developing around our overweight generation. This is seen in the statistic that the average woman in the UK now wears a size 16.

Key causes

WHO state that the major cause of obesity in the world is over consumption of energy dense, nutritionally poor foods that our high in saturated fats and sugars coupled with low activity levels. Obesity rates have increased three fold since 1980 in the UK and other parts of the world, and are not restricted to the industrialised societies although rates often increase faster in developing countries.

ENERGY IN > ENERGY OUT = WEIGHT GAIN

Normally what one eats can fluctuate a little; sometimes we consume more than we need and sometimes less. This fluctuation means that most people's body weight is regulated internally. If this mechanism is disrupted, through intrinsic or extrinsic factors it may predispose that individual to weight gain.

Our environment is saturated with messages to consume more food. Our lack delay of gratification (buy now and pay later mentality) is evident in our credit card spending as well as our clothes sizes. Overconsumption of the wrong foods and advances in technology has led to overwhelming imbalance between what we do and what we consume. Poorly communicated, incomplete and

incorrect messages about diet and weight worsen the problem and fuel the weight loss industry and we continue to get bigger.

Effects of Obesity

Obesity counts for more than 6% of the total health care costs in several developed countries. In the UK physical inactivity costs the health service £8.2 billion per year, obesity £6.2 billion per year with a total cost of £15 billion.

Obesity leads to premature death, and is a major factor for hypertension, high cholesterol, heart and artery disease, joint problems, diabetes (approximately 90% of type 2 diabetes are overweight or obese) and certain types of cancer, such as, breast, prostate, endometrial, kidney and gall bladder.

Reducing a body's BMI to 21 or less is likely to protect them from many diseases: WHO state that globally 58% of diabetes, 21% ischemic heart disease and up to 42% of some cancers are attributable to obesity.

Summary

The effects of obesity are so wide reaching and devastating that initiatives are being put in place in the UK by the government and in Europe by the European Health & Fitness Association (EHFA) who have prioritised obesity reduction as an EU incentive. The world health authority states that 60% of the world's population do not do enough physical activity. If there was ever a call for personal trainers to step up it is now and it is in this area.